

PATENT ABSTRACTS OF JAPAN

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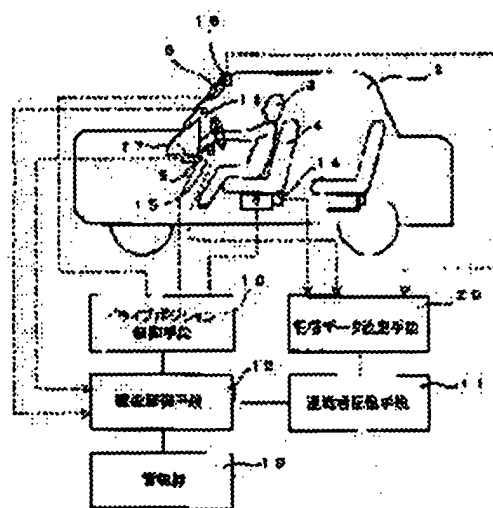
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(54) CONTROL DEVICE FOR VEHICLE FUNCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a vehicle function control device whereby a plurality of users can utilize the vehicle function in their respective appropriate manners.

SOLUTION: Each driver 3 photographs the image of his driver license using a scanner 13, and a function controlling means 12 collates the photographed image data with the image information stored in a driver storing means 11 to serve for identifying the driver. If the driver 3 is acknowledged as the driver for the vehicle 2, the set data for a drive position control means 10 stored in the driver storing means 11 is read, and the position and angle of a seat 4, steering 5, room mirror 6, etc., are adjusted into the condition to suit the driver 3. When the driver 3 makes fine adjustment after automatic setting, the data stored is updated.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the control unit of the car function which can adjust the function of a car according to the entrainment person to a car.

[0002]

[Description of the Prior Art] By the former to the car, adjustment of a location or operating state is attained about various devices. For example, a sheet, a steering, a room mirror, and an operator's door mirror and fender mirror relevant to operation can adjust the drive position of a location or an include angle according to an operator's physique, liking, etc. Adjustment of a drive position can be carried out by an operator making it move directly mechanically. It was decided as one person of specification [the operator of a car], and when the once adjusted drive position seldom needs to be readjusted, disadvantage may seldom be sensed also by directly mechanical adjustment. However, when readjusting, or when there are two or more operators of a car, in directly mechanical adjustment, adjustment will take time amount and disadvantage will be sensed.

[0003] In order to easy-ize adjustment of a driving position, it has a switch for actuation and the car which can be adjusted is also used electromotive in the location and include angle of each part by switch actuation. By such car, although it can carry out checking with the position in which an operator takes a seat to a driver's seat in adjustment of the include angle of a door fender mirror etc., and a car is operated, many adjustment parts must be depended for and set to the sensation of switch actuation etc.

[0004] An operator's position is picturized in JP,7-69107,A, and the driving position control unit which adjusts the location of a sheet or a steering handle is indicated so that it may become a driving position according to an operator's bodily shape. In JP,11-245771,A, a user is checked with a fingerprint, and the fingerprint actuation system of the customized vehicle feature which can perform adjustment including engine-performance control like a seat, a mirror, a steering handle, environmental control, an air bag, a telephone, radio, a mounted computer, a suspension, and transmission adjustment according to a user's preference is indicated. Moreover, to JP,11-288296,A, a user is identified with voice or a fingerprint, and the information processor which chooses the presetting of the mounted audio equipment registered for every user and setting out of a sheet location, a steering location, and a mirror location according to the identified user is indicated. About engine control or automatic gear change control, a study result is memorized for every user and performing suitable control based on the study result memorized is also indicated.

[0005] In addition, by the car used by two or more persons, it becomes important [consideration of theft prevention]. When a user starts a car, a driver's license is picturized, the driver's license of those to whom operation was permitted is beforehand registered into JP,5-24510,A, it judges whether you are the user registered, and only when registered, the control unit of the automobile whose starting of the car is enabled is indicated. In order to aim at theft prevention of the loading at the time of the operator being separated from the car etc. in JP,9-226520,A, an operator possesses ID tag which memorizes an individual recognition number (ID), and only when in agreement with the individual identification number into which the individual identification number is registered beforehand, unlocking of a door is performed, and the automobile antitheft device and the automobile anti-theft approach whose start-up control of the starter by the key stroke is attained are indicated.

[0006]

[Problem(s) to be Solved by the Invention] Whenever an operator changes, it is necessary to perform adjustment of the driving position of a car etc. By the car which two or more operators may operate, whenever an operator changes, adjusting a driving position by the electric adjustment by hand control or manual actuation does not require time and effort, and it cannot necessarily each time necessarily be adjusted to the optimal condition.

[0007] Liking of an operator etc. cannot be made to reflect, if it adjusts automatically according to an operator's physique as indicated by JP,7-69107,A. An operator is identified, and if it is made like to

compensate for setting out beforehand memorized about the operator, the time and effort of setting out can be saved as indicated by JP,11-245771,A and JP,11-288296,A. In these two advanced technology, although the first setting out follows a manual actuation result, once it is set up, manual actuation is not taken into consideration.

[0008] The object of this invention is offering the control unit of a car function with two or more users able to use a car function appropriately, respectively.

[0009]

[Means for Solving the Problem] This invention is equipment which controls the function with which the car is equipped, and is doubled with the operator of a car. It is possible to control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror. Two or more operator part storage of the image information of a driver's license is possible also for manual actuation as information which discriminates an operator from a possible drive position control means. An operator storage means by which the data for control of a drive position control means are memorizable for every operator, and the image data of a driver's license are acquirable. The functional control means which makes the car equipment device by the drive position control means control according to the data which collate with the image information memorized by the operator storage means, recognize an operator, and are memorized about this operator, Whenever manual actuation of the location of a car equipment device, an include angle, or a drive position is performed by each operator, it is the control unit of the car function characterized by including the stored data setting-out means made to set up as data of an operator storage means to memorize this content of actuation about this operator.

[0010] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, an operator storage means, a functional control means, and a stored data setting-out means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device, and can also adjust by manual actuation. As information which identifies an operator, two or more operator part storage of the image information of a driver's license is possible for an operator storage means, and it can memorize the data for control of a drive position control means for every operator. Since the car equipment device by the drive position control means is made to control according to the data which a functional control means can acquire the image data of a driver's license, collate it with the image information memorized by the operator storage means, recognize an operator, and are memorized about the operator who identified, according to an operator, a car equipment device can be adjusted automatically. By each operator, since a stored data setting-out means is made to set up as data of an operator storage means to memorize the content of actuation about the operator whenever manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, it makes the content of manual actuation of an operator reflect in data, and can be adjusted to a suitable condition for an operator. Since the image data of a driver's license is used for discernment of an operator, an operator is certainly discriminable.

[0011] Moreover, the personal digital assistant which said operator holds the image data of said driver's license, and has a radiocommunication function by this invention is carried, and said functional control means is characterized by acquiring the image data of the driver's license acquired from this personal digital assistant through radiocommunication.

[0012] If this invention is followed, the image data of a driver's license can be held to the personal digital assistant which an operator carries, and it can be made to acquire image data to the functional control means of the control device of a car function by the radiocommunication function. Since the operator is only carrying the personal digital assistant and can adjust car equipment devices, such as a drive position, according to self, he can save the time and effort of adjustment and can operate a car by the suitable established state only by getting into [a car].

[0013] Furthermore, this invention is equipment which controls the function with which the car is

equipped. It is possible to control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car. Manual actuation as information which discriminates an operator from a possible drive position control means Two or more operator part storage of the operator identification information added to the wireless mold key which operates the lock and unlocking of a door by remote control at the time of the receipts and payments to a car is possible. If an operator storage means by which the data for control of a drive position control means are memorizable, and an operator use a wireless mold key for every operator Collate with the operator identification information memorized by the operator storage means, and the operator memorized is identified. It is the control unit of the car function characterized by including the functional control means which makes the car equipment device by the drive position control means control according to the data memorized about this operator.

[0014] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, an operator storage means, and a functional control means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device, and can also adjust by manual actuation. Two or more operator part storage of the operator identification information added to the wireless mold key which operates the lock and unlocking of a door by remote control as information which identifies an operator at the time of the receipts and payments to a car is possible for an operator storage means, and it can memorize the data for control of a drive position control means for every operator. If an operator uses a wireless mold key, since a functional control means will make the car equipment device by the drive position control means control according to the data which collate with the operator identification information memorized by the operator storage means, recognize an operator, and are memorized about the operator who identified, it can adjust a car equipment device automatically according to an operator. By each operator, since a stored data setting-out means is made to set up as data of an operator storage means to memorize the content of actuation about the operator whenever manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, it makes the content of manual actuation of an operator reflect in data, and can be adjusted to a suitable condition for an operator. Since the operator identification information added to the wireless mold key is used for discernment of an operator, an operator possesses a wireless mold key, only gets into [a car], and can make an operator identify automatically.

[0015] Furthermore, this invention is equipment which controls the function with which the car is equipped. It is possible to control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car. Two or more operator part storage of the information on an operator's fingerprint is possible also for manual actuation as information which discriminates an operator from a possible drive position control means. An operator storage means by which the data for control of a drive position control means are memorizable for every operator, The data of this fingerprint are acquirable from the personal digital assistant which an operator carries, holds the data of an operator's fingerprint and has a radiocommunication function, and this personal digital assistant through radiocommunication. It is the control unit of the car function characterized by including the functional control means which makes the car equipment device by the drive position control means control according to the data which collate with the information on the fingerprint memorized by the operator storage means, recognize an operator, and are memorized about this operator.

[0016] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, an operator storage means, a personal digital assistant, and a functional control means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device,

and can also adjust by manual actuation. As information which identifies an operator, two or more operator part storage of the information on an operator's fingerprint is possible for an operator storage means, and it can memorize the data for control of a drive position control means for every operator. An operator carries a personal digital assistant, it holds the data of an operator's fingerprint, and has a radiocommunication function. If an operator carries a personal digital assistant, since a functional control means will make the car equipment device by the drive position control means control according to the data which collate the data of the fingerprint acquired from a personal digital assistant through radiocommunication with the information on the fingerprint memorized by the operator storage means, recognize an operator, and are memorized about the operator who identified, it can adjust a car equipment device automatically according to an operator. Since the data of the fingerprint currently held at the personal digital assistant are used for discernment of an operator, an operator carries a personal digital assistant, only gets into [a car], and can make an operator identify automatically. Since a fingerprint is used for discernment of an operator, an operator is certainly discriminable.

[0017] Furthermore, this invention is equipment which controls the function with which the car is equipped. It is possible to control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car. Two or more operator part storage of the image information of an operator's face is possible also for manual actuation as information which discriminates an operator from a possible drive position control means. An operator storage means by which the data for control of a drive position control means are memorizable for every operator, The image data of this face is acquirable from the personal digital assistant which an operator carries, holds the image data of an operator's face, and has a radiocommunication function, and this personal digital assistant through radiocommunication. It is the control unit of the car function characterized by including the functional control means which makes the car equipment device by the drive position control means control according to the data which collate with the image information memorized by the operator storage means, recognize an operator, and are memorized about this operator.

[0018] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, an operator storage means, a personal digital assistant, and a functional control means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device, and can also adjust by manual actuation. As information which identifies an operator, two or more operator part storage of the image information of an operator's face is possible for an operator storage means, and it can memorize the data for control of a drive position control means for every operator. An operator carries a personal digital assistant, it holds the image data of an operator's face, and has a radiocommunication function. If an operator carries a personal digital assistant, since a functional control means will make the car equipment device by the drive position control means control according to the data which collate the image data of the face acquired from a personal digital assistant through radiocommunication with the image information of the face memorized by the operator storage means, recognize an operator, and are memorized about the operator who identified, it can adjust a car equipment device automatically according to an operator. Since the image data of the face currently held at the personal digital assistant is used for discernment of an operator, an operator carries a personal digital assistant, only gets into [a car], and can make an operator identify automatically. Since the image of the face is used for discernment of an operator, an operator is certainly discriminable.

[0019] Furthermore, this invention is equipment which controls the function with which the car is equipped. It is possible to control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car. Two or more operator part storage of the speech information of an operator's voiceprint is possible also for manual actuation as information which discriminates an operator from a possible drive position control means. An operator storage means by which the data for control of a

drive position control means are memorizable for every operator, The voice data of this voiceprint is acquirable from the personal digital assistant which an operator carries, holds the voice data of an operator's voiceprint, and has a radiocommunication function, and this personal digital assistant through radiocommunication. It is the control unit of the car function characterized by including the functional control means which makes the car equipment device by the drive position control means control according to the data which collate with the image information memorized by the operator storage means, recognize an operator, and are memorized about this operator.

[0020] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, an operator storage means, a personal digital assistant, and a functional control means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device, and can also adjust by manual actuation. As information which identifies an operator, two or more operator part storage of the speech information of an operator's voiceprint is possible for an operator storage means, and it can memorize the data for control of a drive position control means for every operator. An operator carries a personal digital assistant, it holds the voice data of an operator's voiceprint, and has a radiocommunication function. If an operator carries a personal digital assistant, since a functional control means will make the car equipment device by the drive position control means control according to the data which collate the voice data of the voiceprint acquired from a personal digital assistant through radiocommunication with the speech information of the voiceprint memorized by the operator storage means, recognize an operator, and are memorized about the operator who identified, it can adjust a car equipment device automatically according to an operator. Since the voice data of the voiceprint currently held at the personal digital assistant is used for discernment of an operator, an operator carries a personal digital assistant, only gets into [a car], and can make an operator identify automatically. Since the voice of a voiceprint is used for discernment of an operator, an operator is certainly discriminable.

[0021] Moreover, this invention is characterized by to include further a renewal means of stored data update the data of the drive position control means memorized by said operator storage means to by_ which the content of setting out by this actuation has been memorized about this operator, whenever fine adjustment by manual actuation of the location of said car equipment device, an include angle, or a drive position is performed by each operator, after said functional control means makes the car equipment device by said drive position control means control.

[0022] If this invention follows, since the data of an operator storage means memorize about an operator from the content of actuation update whenever fine adjustment by manual actuation of the location of a car equipment device, an include angle, or a drive position is performed by each operator after a functional control means makes a car equipment device control to a drive position control means, the renewal means of stored data can update data by manual actuation of an operator, and can adjust them to a suitable condition for an operator.

[0023] Moreover, by this invention, said functional control means is characterized by operating the function of the theft prevention defined beforehand, when said operator cannot be recognized.

[0024] Since the function of the theft prevention defined beforehand is operated [if this invention is followed,] when those who are not operators memorized by the operator storage means, for example are going to operate a car, and an operator cannot be recognized, theft prevention can also be effectively aimed at with adjustment of a driving position etc.

[0025] Moreover, in a suitable example, it is characterized by said functional control means emitting an alarm as a function of said theft prevention.

[0026] If this example is followed, since an alarm will be emitted as a function of theft prevention, an alarm can report around a car that those who are not memorized as an operator are going to operate the car for the operator storage means, and a theft can be prevented effectively.

[0027] Moreover, in other suitable examples, it is characterized by said functional control means making

impossible control of the car equipment device by said drive position control means, and engine start up of a car as a function of said theft prevention.

[0028] those who are not memorized by the operator storage means as an operator since control of the car equipment device by the drive position control means and engine start up of a car will be made impossible as a function of theft prevention, if this example is followed -- a car -- it is also going to operate -- it becomes impossible to perform adjustment of a driving position, and starting of a car, and a theft can be prevented effectively.

[0029] Furthermore, in other suitable examples, it is characterized by making said functional control means into the car control state which is control of the car equipment device by said drive position control means as a function of said theft prevention, and cannot perform operation by the operator.

[0030] those who are not memorized by the operator storage means as an operator since it will be made the car control state which cannot perform operation by the operator in control of the car equipment device by the drive position control means as a function of theft prevention, if this example is followed -- a car -- it is also going to operate -- it becomes impossible to operate a car and a theft can be prevented effectively.

[0031] Moreover, by this invention, said functional control means is characterized by having the function returned to the past adjustment condition, when the adjustment hysteresis about said car equipment device by manual actuation of said operator is memorized and an operator is mistaken in actuation.

[0032] If this invention is followed, and a mistake is in the manual actuation by the operator, for example a return switch etc. will be operated, according to adjustment hysteresis, it can return to the last adjustment condition etc. easily. Various setting out tries and compares adjustment and the optimal condition can also be chosen.

[0033] Moreover, it is characterized by controlling said functional control means by this invention in the condition of being beforehand set up so that the car equipment device by the drive position control means which recognizes said operator may be controlled at the time of entrainment, this drive position control means may be controlled at the time of alighting and a car equipment device may tend to get off.

[0034] If this invention is followed, although an operator will adjust the car equipment device by the drive position control means at the time of entrainment, this adjustment result is not taking the convenience of alighting into consideration. It can be made easy to get down, in case operation is ended and it gets down from a car, since it controls in the condition of being set up beforehand so that it may be easy to get off at the time of alighting. As a condition of being easy to get off, a seat location can be moved back, for example, or it can set up shifting a steering up etc. Moreover, it can be made easy to ride, also when taking a car next if the adjustment condition is maintained.

[0035] By this invention, moreover, said drive position control means As said condition set up beforehand, the actuation for which a driver's seat is moved to a backseat side at the time of alighting is possible. Said functional control means When it detects whether an entrainment person is in the backseat of the direction to which this driver's seat is moved and an entrainment person is detected in this backseat, after detecting that forbade migration of this driver's seat at least, or this entrainment person came out of the car, it is characterized by performing control accompanied by migration of this driver's seat.

[0036] An operator can make it easy to extend the space of a driver's seat and to get off by actuation for which a driver's seat is moved to a backseat side at the time of alighting, if this invention is followed. Since control accompanied by migration of a driver's seat is performed after the entrainment person detects having come out of the car when moving back the backseat of the direction to which a driver's seat is moved, for example, a driver's seat, and there is an entrainment person immediately after a driver's seat, accident, such as being inserted into the driver's seat to which the entrainment person of a backseat retreats, can be prevented.

[0037] Furthermore, this invention is equipment which controls the function with which the car is equipped. It is possible to control the location, include angle, or drive position of the car equipment

device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car. If the drive position control means in which manual actuation is also possible, and an operator control a car equipment device by manual actuation A data acquisition means to acquire the data showing the condition of the car equipment device after control, and to have a radiocommunication function, A transmitting means to transmit the condition data which a data acquisition means acquires to a personal digital assistant by radiocommunication, It is the control unit of the car function characterized by including the functional control means which the condition data transmitted by radiocommunication from a personal digital assistant are received [control means], and makes the car equipment device by the drive position control means control according to the received data.

[0038] If this invention is followed, the control device of the car function which controls the function with which the car is equipped includes a drive position control means, a data acquisition means, a transmitting means, and a functional control means. Since a drive position control means can control the location, include angle, or drive position of the car equipment device containing either a sheet, a steering, a room mirror or a door fender mirror according to the operator of a car and manual actuation is also possible, an operator can receive regulating automatically about a car equipment device, and can also adjust by manual actuation. When an operator controls a car equipment device by manual actuation, a data acquisition means acquires the data showing the condition of the car equipment device after control, and has a radiocommunication function. A transmitting means transmits the condition data which a data acquisition means acquires to a personal digital assistant by radiocommunication. If an operator carries a personal digital assistant, since a functional control means will receive the condition data transmitted by radiocommunication from a personal digital assistant and will make the car equipment device by the drive position control means control according to the received data, it can adjust a car equipment device automatically according to an operator. Since the condition data transmitted to adjustment of the car equipment device set by the operator from a personal digital assistant are used, an operator can make it adjust automatically by carrying a personal digital assistant and only getting into [a car]. Also when there are two or more available cars about the condition data transmitted from a personal digital assistant, an operator can make a drive position etc. set up by each car, using in common the data memorized by the personal digital assistant.

[0039] Moreover, if said data-acquisition means is equipped with the function memorize the acquired data, by this invention, said functional control means makes said drive position control means control said car equipment device according to the data which the data-acquisition means has memorized and an operator tunes a car equipment device finely by manual actuation, it will be characterized by to make the result of fine adjustment reflect in the data which the data-acquisition means has memorized.

[0040] If this invention is followed, a data acquisition means is equipped with the function to memorize the acquired data, and since a functional control means makes a drive position control means control a car equipment device according to the data which the data acquisition means has memorized, it can adjust a car equipment device automatically from the content of manual actuation. By each operator, since the content of actuation is made to reflect in the data of a data acquisition means to memorize about an operator whenever fine adjustment by manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, data can be reset or updated by manual actuation of an operator, and it can adjust to a suitable condition for an operator.

[0041] Moreover, it is characterized by performing control accompanied by this sheet migration, after generating an alarm and taking a check when a fellow passenger's condition that said functional control means is influenced by this invention of sheet migration condition detection of a fellow passenger including whether the entrainment person exists in the backseat or it is equipped with the infant seat is possible, and according to a drive position control means is detected.

[0042] Since control accompanied by sheet migration is performed after it will detect the condition of fellow passengers, such as a backseat and an infant seat, if this invention is followed, it will generate an alarm if there is a fellow passenger, and taking a check of a fellow passenger and an operator, the situations, such as being inserted into the sheet which a fellow passenger etc. moves, are avoidable.

[0043] Moreover, by this invention, said drive position control means is characterized by having the

function which shifts the front seat by the side of this door ahead, when a door can open as control of said sheet, in order to take a backseat.

[0044] It can be made easy to extend the space of the backseat which gets on and to get on, since it will have the function which shifts the front seat by the side of the door to open ahead in case a backseat is taken if this invention is followed.

[0045] Moreover, it is characterized by detecting whether the entrainment person of said functional control means is in the front seat which performs control which said drive position control means shifts, and operating said function by this invention, whenever there is not an entrainment person.

[0046] If an entrainment person is in the front seat which will make it move ahead among a driver's seat and a passenger seat for the entrainment to a backseat if this invention is followed, since control which shifts a front seat will not be performed, the situations -- an entrainment person is inserted -- can be prevented.

[0047] Moreover, it is characterized by controlling by this invention through said drive position control means to close a door mirror, after it changes into the condition of having opened this door mirror and a door closes until said car is equipped with the door mirror which can be opened and closed as said door fender mirror and a door closes said functional control means at the time of alighting of an operator.

[0048] Since it will change into the condition of having opened the door mirror until a door closes at the time of alighting of an operator if this invention is followed, the situation of the car exterior can be checked using a door mirror, and after checking a safe condition, a door can be opened and, as for the operator who is going to get off, can get off. Since a door mirror is closed after a door closes, it becomes impossible for a door mirror to project in the side of a car, the space of the side can be widely used during a halt of a car, and fear of breakage of a door mirror etc. can be reduced.

[0049]

[Embodiment of the Invention] Drawing 1 shows the rough configuration of the car functional control unit 1 which is the 1st gestalt of operation of this invention. The car functional control device 1 is installed in the cars 2, such as a passenger car, according to the driver 3 which is an operator, it is possible to control the location, include angle, or drive position of car equipment devices, such as the sheets 4, such as a driver's seat, a steering 5, a room mirror 6, and a door mirror that is omitting the graphic display further, and manual actuation also includes the possible drive position control means 10. The car functional control unit 1 includes the operator storage means 11 and the functional control means 12 further. A driver 3 picturizes the image of the driver's license to carry with a scanner 13, and makes image data acquire.

[0050] As information which identifies a driver 3, two or more operator part storage of the image information of a driver's license is possible for the operator storage means 11, and it can memorize the data for control of the drive position control means 10 for every operator. The functional control means 12 can acquire the image data of a driver's license through a scanner 13, collates it with the image information memorized by the operator storage means 11, a driver 3 is recognized, and automatic control of the car equipment device by the drive position control means 10 is made to perform according to the data memorized about the driver 3.

[0051] Manual actuation in which a driver 3 operates the sheet switch 14, a steering switch 15, the mirror switch 16, etc., and uses a motor style is also possible for adjustment of locations, such as a sheet 4, a steering 5, a room mirror 6, and a door mirror that is omitting the graphic display further, an include angle, a drive position, etc. The content of manual actuation can be returned to the last adjustment condition, if it memorizes as hysteresis one by one and a driver 3 operates a reset switch 17. When a driver 3 is not recognized as an operator memorized by the operator storage means 11, an alarm 18 can operate and theft prevention can be aimed at. In order to make the content of manual actuation set up as data of the operator storage means 11 every operated driver 3, the stored data setting-out means 20 is established.

[0052] Drawing 2 shows the rough control procedure of the car functional control unit 1 of drawing 1. If a driver 3 gets into [a car 2], control will be started from step a0 and a driver's license will be picturized with a scanner 13 at step a1. At step a2, the image data of the picturized driver's license is

collated with the image information memorized by the operator storage means 11, and it judges whether it can recognize as any one of two or more operators by whom the driver 3 is memorized. If recognition is possible, the data which shift to step a3 and are memorized about the recognized operator will be read. Next, at step a4, data are given to the drive position control means 10, and the location, include angle, or drive positions of a car equipment device, such as a door mirror, are automatically adjusted to a sheet 4, a steering 5, a room mirror 6, and a pan.

[0053] At step a5, it judges whether a driver 3 operates the sheet switch 14, a steering switch 15, the mirror switch 16, etc., and manual actuation is performed after automatic adjustment. When manual actuation is performed, the stored data setting-out means 20 sets the content of manual actuation as the operator storage means 11 at step a6. By automatic adjustment at step a4, when data are not set as the operator storage means 11, after adjustment about the data is not performed but manual actuation is performed, data are set up, and regulating automatically becomes possible from next time. If manual actuation is performed when data are already set up, renewal of the data set up will be performed and regulating automatically from next time will be performed according to the updated data. At step a7, the content of updating of data is memorized as setting-out hysteresis.

[0054] At step a8, the existence of the actuation to a reset switch 17 is judged. if the reset switch 17 is operated, according to setting-out hysteresis, it is setting out at step a9 -- data are returned to the setting-out data before manual adjustment. When it is judged that the reset switch 17 is not operated at step a8, or when step a9 is completed, it returns to step a5.

[0055] It judges whether at step a5, when it is judged that manual actuation is not performed, it is step a10, operation of a car tends to be completed, and the driver 3 is going to get off. Actuation with the high possibility of parking -- an engine stops, a change gear is set to a parking location, a handbrake is set, or the vehicle speed is also set to 0 by that an engine does not stop, a change gear becomes a center valve position, and a handbrake is set -- or a stop is performed, it can detect that the door of a driver's seat can open further etc., and this decision can perform it. When it is judged that it is not alighting, it returns to step a5.

[0056] When judged as alighting at step a10, it is step a11 and a sheet 4 and a steering 5 are changed into the position for alighting. The sheet 4 of a driver's seat is retreated, a steering 5 is raised, and it is made to change by the position for alighting, so that a driver 3 may tend to get off. In step a12, if waiting and a door close that a door closes, a door mirror will be closed at step a13, and control will be ended at step a14. In addition, at step a2, when not recognized as one of the operators by whom the driver 3 is memorized, an alarm 18 operates at step a15, an alarm is performed, and the function of theft prevention is started.

[0057] Drawing 3 shows the information and data which are memorized by the operator storage means 11. The driver 3 which can accept operation of a car 3 makes image information of a driver's license identification information (ID), and setting-out data, such as a sheet, a steering, a room mirror, and a door mirror on either side, are memorized for every operator. The first data are set up by manual actuation. If manual actuation is after regulating automatically according to data, the content of actuation will be updated as these data, and earlier data will be left behind as hysteresis last time. The limit based on storage capacity is prepared in the data to leave.

[0058] As mentioned above, with this operation gestalt, a car equipment device can be automatically adjusted according to a driver 3. By each driver 3, since the stored data setting-out means 20 is made to set up as data of an operator storage means 11 to memorize the content of actuation about the driver 3 whenever manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, it makes the content of manual actuation of a driver 3 reflect in data, and can be adjusted to a suitable condition for a driver 3. Since the image data of a driver's license is used for discernment of a driver 3, a driver 3 is certainly discriminable.

[0059] Moreover, when a driver 3 cannot be recognized, since the function of the theft prevention defined beforehand is operated, as for the functional control means 12, an alarm 18 etc. can also aim at theft prevention effectively with adjustment of a driving position etc. As a function of theft prevention, if an alarm is emitted to the exterior of a car 2, it can report around a car 2 and a theft can be prevented

effectively. As a function of theft prevention, control of the car equipment device by the drive position control means 10 and engine start up of a car can be made impossible. Even if those who are not memorized as an operator are going to operate a car 2 for the operator storage means 11, it becomes impossible to perform adjustment of a driving position, and starting of a car, and a theft can be prevented effectively. Furthermore, it can also be made the car control state which cannot perform operation by the operator as a function of theft prevention in control of the car equipment device by the drive position control means 10. Even if those who are not memorized as an operator are going to operate a car for the operator storage means 11, it becomes impossible to operate a car 3 and a theft can be prevented effectively.

[0060] Moreover, if a driver 3 operates a reset switch 17, since the functional control means 12 has the function returned to the past adjustment condition when the adjustment hysteresis about the car equipment device by manual actuation of a driver 3 is memorized for the operator storage means 11 and a driver 3 is mistaken in actuation, it can be easily returned to the last adjustment condition etc. according to adjustment hysteresis. Various setting out tries and compares adjustment and the optimal condition can also be chosen.

[0061] Moreover, the functional control means 12 is controlled in the condition of being beforehand set up so that the car equipment device by the drive position control means 10 which recognizes a driver 3 may be controlled at the time of entrainment, the drive position control means 10 may be controlled at the time of alighting and a car equipment device may tend to get off. Although the car equipment device by the drive position control means 10 is adjusted at the time of entrainment of a driver 3, this adjustment result is not taking the convenience of alighting into consideration. It can be made easy to get down, in case operation is ended and it gets down from a car 2, since it controls in the condition of being set up beforehand so that it may be easy to get off at the time of alighting. As a condition of being easy to get off, the location of a sheet 4 can be moved back, for example, or it can set up shifting a steering 5 up etc. Moreover, it can be made easy to ride, also when taking a car 2 next if the adjustment condition is maintained.

[0062] Moreover, in case the drive position control means 10 moves the sheet 4 of a driver's seat to a backseat side at the time of alighting, when it detects whether the entrainment person of the functional control means 12 is in the backseat of the direction to which a driver's seat is moved and an entrainment person is detected in a backseat, after detecting that forbade migration of a driver's seat at least, or the entrainment person came out of the car 2, the control accompanied by migration of a driver's seat can be carried out. A driver 3 can make it easy to extend the space of a driver's seat and to get off by actuation for which a driver's seat is moved to a backseat side at the time of alighting. Since control accompanied by migration of a driver's seat is performed after the entrainment person detects having come out of the car 2 when moving back the backseat of the direction to which a driver's seat is moved, for example, a driver's seat, and there is an entrainment person immediately after a driver's seat, the situations, such as being inserted into the driver's seat to which the entrainment person of a backseat retreats, can be prevented.

[0063] Drawing 4 shows the appearance and the simplified internal configuration of the wireless mold key 30 used with the 2nd gestalt of operation of this invention for recognition of a driver 3. In order to simplify actuation in which a key must be inserted in a key cylinder each time, the wireless mold key 30 can use a feeble electric wave in the case of unlocking which cancels the lock of a door, and can also unlock and lock a door by remote operation at it. An electric wave will be transmitted, if the transmitting switch 31 is formed in the wireless mold key 30 and the hand 32 of a driver operates the transmitting switch 32.

[0064] In the wireless mold key 30, a control circuit 35 and memory 36 are contained. The addition code 38 which specifies the driver 3 which possesses the wireless mold key 30 with the identification code 37 which enables the lock and unlocking of a door as memory 36 is memorized. When the transmitting switch 31 is operated, a control circuit 35 makes identification code 37 and the addition code 38 transmit as an electric-wave signal through read-out and a sending circuit 39 from memory 36. The configuration by the side of a car is fundamentally equivalent to the car functional control unit 1 of drawing 1 except

for a scanner 13. However, at drawing 1, an operator is recognized in addition code 38 of the wireless mold key 30 with this operation gestalt to recognizing an operator by the image of a driver's license. Two or more available operators possess the wireless mold key 30 with the same identification code 37 for a car 2, respectively. Each operator is identified in addition code 38. Even if identification code 37 is in agreement, when the addition code 38 is not memorized as identification information of the operator storage means 12, an anti-theft function can operate and theft prevention can be aimed at effectively.

[0065] Drawing 5 shows the rough configuration of the car functional control unit 41 which is the 3rd gestalt of operation of this invention. With this operation gestalt, the same reference mark is given to the part corresponding to the operation gestalt of drawing 1, and the overlapping explanation is omitted. With this operation gestalt, a driver 3 carries the personal digital assistants 42, such as a cellular phone, and gets into [a car 2]. With this operation gestalt, the existence of the fellow passenger to a backseat 44 can be checked. The car functional control device 41 includes the drive position control means 50 and the operator storage means 51 of having a function equivalent to the drive position control means 10 of drawing 1, and the functional control means 52. A driver 3 transmits discernment data to the functional control means 52 by radiocommunication from the personal digital assistant 42 to carry. As information which identifies a driver 3, two or more operator part storage of the identification information corresponding to discernment data is possible for the operator storage means 51, and it can memorize the data for control of the drive position control means 50 for every operator. The functional control means 52 collates the discernment data transmitted from a personal digital assistant 42 with the identification information which is ability ready for receiving and is memorized by the operator storage means 51, recognizes a driver 3, and makes automatic control of the car equipment device by the drive position control means 50 perform according to the data memorized about the driver 3.

[0066] Drawing 6 shows the rough internal configuration of the personal digital assistant 42 used with this operation gestalt. The radiocommunication means 55 which can transmit and receive the information and data through a wireless electric wave is included in a personal digital assistant 42, and it is controlled by the processing means 56. The processing means 56 performs information processing as a personal digital assistant 42 using the output means 59, such as the input means 58, such as the storage means 57 and a key switch, and a display panel. The image data of a driver's license, the image data of a fingerprint, the classification code data of a fingerprint, the image data of the face, the voice data of a voiceprint, etc. are memorized like the operation gestalt of drawing 1 as discernment data by the storage means 57. The identification information for collating corresponding to discernment data is memorized by the operator storage means 51 of drawing 5. In addition, the input device for fingerprinting is prepared in a personal digital assistant 42, and a fingerprint is extracted directly, and it transmits as image data, or a fingerprint is classified and coded and it can transmit. Moreover, a camera and a microphone are formed, and the image data of a driver's license or the face is picturized, or the direct input of the voice data of a voiceprint is carried out, and it can transmit. Moreover, as a storage means 57, the flash memory of a non-volatile, RAM by which the power source is backed up are used.

[0067] Drawing 7 shows the rough control procedure of the car functional control unit 41 of drawing 5 about the case where the image data of a fingerprint is used as discernment data. If a driver 3 gets into [a car 2], control will be started from step b0 and the image data of a fingerprint will be received from a personal digital assistant 42 at step b1. At step b2, the image data of a fingerprint which received is collated with the image information memorized by the operator storage means 51, and it judges whether it can recognize as any one of two or more operators by whom the driver 3 is memorized. If recognition is possible, the data which shift to step b3 and are memorized about the recognized operator will be read. Next, at step b4, data are given to the drive position control means 50, and the location, include angle, or drive positions of a car equipment device, such as a door mirror, are automatically adjusted to a sheet 4, a steering 5, a room mirror 6, and a pan.

[0068] At step b5, it judges whether a driver 3 operates the sheet switch 14, a steering switch 15, the mirror switch 16, etc., and fine adjustment by manual actuation is performed after automatic adjustment. When fine adjustment by manual actuation is performed, the stored data setting-out means 20 sets the content of manual actuation as the operator storage means 11 at step b6. When it is judged that fine

adjustment by manual actuation is not performed at step b5, or when step b6 is completed, it moves to step b7. In addition, like step a6 of drawing 2 - step a9, by the actuation to a reset switch 17, before adjusting the content of adjustment, it can return.

[0069] At step b7, operation of a car is completed and it judges whether the driver 3 is going to get off. This judgment can be made like step a10 of drawing 2. When it is judged that it is not alighting, it returns to step b5. When judged as alighting at step b7, it is step b8 and checks whether the fellow passenger has ridden on the backseat 44. This check can picture the vehicle interior of a room with a camera, or can be performed by forming a sensor in a backseat 44. When a fellow passenger is detected, an alarm 18 is operated at step b9, an alarm is performed, time amount is set, and it returns and reconfirms to step b8. If it is checked that there is no fellow passenger at step b7, a sheet 4 and the steering 5 as well as step a11 of drawing 2 will be changed into the position for alighting at step b10, and control will be ended at step b11. In addition, when not recognized at step b2 as one of the operators by whom the driver 3 is memorized, the function of theft prevention is started like [actuation of an alarm 18 etc.] step a15 of drawing 2 at step b12.

[0070] With this operation gestalt, it uses addition code 38 as operator identification information added to the wireless mold key 30 which operates the lock and unlocking of a door by remote control as information which identifies a driver 3 at the time of the receipts and payments to a car 2. If a driver 3 uses the wireless mold key 30, it will collate with the operator identification information memorized by the operator storage means 51. An operator is recognized, and since the car equipment device by the drive position control means 50 is made to control according to the data memorized about the operator who identified, according to an operator, a car equipment device can be adjusted automatically. By each operator, since a stored data setting-out means is made to set up as data of an operator storage means to memorize the content of actuation about the operator whenever manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, it makes the content of manual actuation of an operator reflect in data, and can be adjusted to a suitable condition for an operator. Since the operator identification information added to the wireless mold key is used for discernment of an operator, an operator possesses a wireless mold key, only gets into [a car], and can make an operator identify automatically. In addition, closing motion control of a door mirror can also be performed with this operation gestalt as well as the operation gestalt of drawing 1. Moreover, with the operation gestalt of drawing 1 as well as this operation gestalt, after checking the fellow passenger of a backseat, a sheet 4 can also be moved.

[0071] Drawing 8 shows the rough configuration of the car functional control unit 61 which is the 4th gestalt of operation of this invention. With this operation gestalt, the same reference mark is given to the part corresponding to drawing 1 or the operation gestalt of drawing 5, and the overlapping explanation is omitted. With this operation gestalt, a driver 3 carries the personal digital assistants 62, such as a cellular phone, and gets into [a car 2]. The car functional control device 61 includes the drive position control means 70 and the data acquisition means 71 of having a function equivalent to the drive position control means 10 of drawing 1, the functional control means 72, the fellow passenger detection means 73, and the data storage means 74. A driver 3 transmits setting-out data to the functional control means 72 by radiocommunication from the personal digital assistant 62 to carry. The functional control means 72 can transmit and receive the setting-out data transmitted from a personal digital assistant 62, and makes automatic control of the car equipment device by the drive position control means 70 perform according to the setting-out data to receive.

[0072] Drawing 9 shows the rough internal configuration of the personal digital assistant 62 used with this operation gestalt. The radiocommunication means 75 which can transmit and receive the information and data through a wireless electric wave is included in a personal digital assistant 62, and it is controlled by the processing means 76. The processing means 76 performs information processing as a personal digital assistant 62 using the output means 59, such as the input means 58, such as the storage means 77 and a key switch, and a display panel. The setting-out data set as the drive position control means 70 of drawing 8 are memorized by the storage means 77. The identification information for collating corresponding to discernment data is memorized by the operator storage means 51 of drawing

5. In addition, the input device for fingerprinting is prepared in a personal digital assistant 42, and a fingerprint is extracted directly, and it transmits as image data, or a fingerprint is classified and coded and it can transmit. Moreover, a camera and a microphone are formed, and the image data of a driver's license or the face is picturized, or the direct input of the voice data of a voiceprint is carried out, and it can transmit.

[0073] Drawing 10 shows the rough control procedure of the car functional control unit 61 of drawing 8. If a driver 3 gets into [a car 2], control will be started from step c0, and setting-out data will be received and acquired from a personal digital assistant 62 at step c1. At step c2, setting-out data are given to the drive position control means 70, and the location, include angle, or drive positions of a car equipment device, such as a door mirror, are automatically adjusted to a sheet 4, a steering 5, a room mirror 6, and a pan.

[0074] At step c3, it judges whether a driver 3 operates the sheet switch 14, a steering switch 15, the mirror switch 16, etc., and fine adjustment by manual actuation is performed after automatic adjustment. When fine adjustment by manual actuation is performed, the data acquisition means 71 acquires the content of manual actuation at step c4, and it memorizes for the data storage means 74 at step c5. At step c6, the data is transmitted to a personal digital assistant 62. If a personal digital assistant 62 receives data, the storage means 77 will memorize.

[0075] After step c6 is completed when it is judged at step c3 that he has no manual actuation or, it judges whether at step c7, operation of a car 2 tends to be completed and the driver 3 is going to get off. This judgment can be made like step a10 of drawing 2. When it is judged that it is not alighting, it returns to step c3. When judged as alighting at step c7, it is step c8 and checks whether the fellow passenger has ridden on the backseat 44. This check can be performed by establishing the fellow passenger detection means 73, such as a camera which picturizes the vehicle interior of a room, and a sensor formed in a backseat 44. When a fellow passenger is detected, it judges whether an alarm 17 is operated at step c9, an alarm is performed, and the check of actuation of a reset switch 17 etc. is performed at step c10. When the check is not performed, it returns to step c9. When there is a check at step c10, or when a fellow passenger is not put up at step c8, a sheet 4 and the steering 5 as well as step a11 of drawing 2 are changed into the position for alighting at step c11, and control is ended at step c12.

[0076] Since the data memorized by the personal digital assistant 62 are used for adjustment of the car equipment device set by the driver 3, a driver 3 can make it adjust automatically with this operation gestalt by carrying a personal digital assistant 62 and only getting into [a car 2]. Also when there are two or more available cars 2 by radiocommunication about the stored data of a personal digital assistant 62, a driver 3 can make a drive position etc. set up by each car 2, using in common the data memorized by the personal digital assistant 62.

[0077] Moreover, the data acquisition means 71 is equipped with the function to memorize the acquired data for the data storage means 74. The functional control means 72 makes the result of fine adjustment reflect in the data which the data storage means 74 has memorized, when the drive position control means 70 is made to control a car equipment device according to the data which the data storage means 74 has memorized and a driver 3 tunes a car equipment device finely by manual actuation. By the driver 3, since the content of actuation is made to reflect in the data of a data storage means 74 to memorize about an operator whenever fine adjustment by manual actuation of the location of a car equipment device, an include angle, or a drive position is performed, data can be reset or updated by manual actuation, and it can adjust to a suitable condition for an operator.

[0078] Moreover, when a fellow passenger's condition that the functional control means 12, 52, and 72 are influenced of sheet migration condition detection of a fellow passenger including whether the entrainment person exists in the backseat 44 or it is equipped with the infant seat is possible, and according to the drive position control means 10, 50, and 70 is detected, after generating an alarm and taking a check with each operation gestalt of this invention, the control accompanied by sheet migration can be carried out. Since control accompanied by sheet migration will be performed after generating an alarm and taking a check of a fellow passenger and an operator if a fellow passenger is in a backseat 44, an infant seat, etc., the situations, such as being inserted into the sheet which a fellow passenger etc.

moves, are avoidable.

[0079] Moreover, with each operation gestalt, the drive position control means 10, 50, and 70 can also be equipped with the function shifted ahead [sheet 4] by the side of the door, when a door can open as control of a sheet 4, in order to take a backseat 44. It can be made easy to extend the space of the backseat 44 which gets on and to get on, since it has the function which shifts the sheet 4 of the front seat by the side of the door to open ahead in case a backseat 44 is taken. Moreover, as for the functional control means 12, 52, and 72, it is desirable to operate the function which detects whether an entrainment person is in the sheet 4 of the front seat which performs control which the drive position control means 10, 50, and 70 shift, and shifts a sheet 4, whenever there is not an entrainment person. Among a driver's seat and a passenger seat, if an entrainment person is in the sheet 4 to a backseat 44 ahead moved for entrainment, since control which shifts a sheet 4 will not be performed, the situations -- an entrainment person is inserted -- can be prevented.

[0080] In addition, with each operation gestalt, although the door mirror is explained, adjustment of a fender mirror as well as a door mirror can be performed about a drive position. Moreover, not only adjustment of locations, such as a sheet 4, a steering 5, and a door fender mirror, or an include angle but adjustment of an air conditioning condition in the car, a sound instrument setup condition, etc. can be made to perform every driver 3 like each operation gestalt in this invention.

[0081]

[Effect of the Invention] When two or more operators operate one car as mentioned above according to this invention, each operator By making a car functional control means acquire the image data of a driver's license, collate with the image information memorized by the operator storage means, and an operator is recognized. Since the car equipment device by the drive position control means is made to control according to the data memorized about the operator who identified, according to an operator, a car equipment device can be adjusted automatically.

[0082] Moreover, since according to this invention a functional control means can be made to be able to acquire the image data of a driver's license by the radiocommunication function of the personal digital assistant which an operator carries and car equipment devices, such as a drive position, can be adjusted according to an operator, the time and effort of adjustment can be saved and a car can be operated by the suitable established state only by getting into [a car].

[0083] If each operator performs unlocking of a door etc. using a wireless mold key when two or more operators furthermore operate one car according to this invention, according to an operator, a car equipment device can be adjusted automatically. The time and effort of adjustment of an operator is saved and operation of the car in a suitable established state is attained only by an operator getting into [a car] using a wireless mold key.

[0084] Since a functional control means can be made to be able to acquire data, such as an image of a fingerprint, by the radiocommunication function of the personal digital assistant which an operator carries and car equipment devices, such as a drive position, can furthermore be adjusted according to an operator according to this invention, the time and effort of adjustment can be saved and a car can be operated by the suitable established state only by getting into [a car].

[0085] Since a functional control means can be made to be able to acquire the image data of the face by the radiocommunication function of the personal digital assistant which an operator carries and car equipment devices, such as a drive position, can furthermore be adjusted according to an operator according to this invention, the time and effort of adjustment can be saved and a car can be operated by the suitable established state only by getting into [a car].

[0086] Since a functional control means can be made to be able to acquire the voice data of a voiceprint by the radiocommunication function of the personal digital assistant which an operator carries and car equipment devices, such as a drive position, can furthermore be adjusted according to an operator according to this invention, the time and effort of adjustment can be saved and a car can be operated by the suitable established state only by getting into [a car].

[0087] Moreover, since the data memorized about an operator from the content of actuation are updated whenever according to this invention it is performed automatically that a functional control means

makes a car equipment device control to a drive position control means and fine adjustment by manual actuation is performed by each operator after that, data can be updated by manual actuation of an operator and it can adjust to a more suitable condition for an operator in automatic next control.

[0088] Moreover, since it controls it becoming impossible to perform adjustment of the driving position which the function of the theft prevention defined beforehand is operated, for example, emits an alarm, and starting of a car, and making them into the drive position which cannot be operated etc. when those who are not recognized as an operator are going to operate a car according to this invention, theft prevention can also be effectively aimed at with adjustment of a driving position etc.

[0089] Moreover, if a return switch etc. is operated, for example even when an operator mistakes actuation according to this invention, it can return easily [the last actuation].

[0090] Moreover, it can be made easy to get down, in case according to this invention operation is ended and it gets down from a car.

[0091] Moreover, since according to this invention control accompanied by migration of a driver's seat is performed after the entrainment person detects having come out of the car when there is an entrainment person immediately after a driver's seat at the time of alighting, accident, such as being inserted into the driver's seat to which the entrainment person of a backseat retreats, can be prevented.

[0092] Since the car equipment device by the drive position control means is made to control according to the data received through radiocommunication from a personal digital assistant, also when there are furthermore two or more available cars by radiocommunication about the stored data of a personal digital assistant according to this invention, an operator can make a drive position etc. set up automatically by each car, using in common the data memorized by the personal digital assistant.

[0093] Moreover, since the contents of setting out, such as this invention ***** and an automatic drive position by the stored data of a personal digital assistant, are finely tuned by manual actuation and are made to reflect in automatic setting out from next time, it can adjust to the suitable condition for an operator.

[0094] Moreover, since control accompanied by sheet migration is performed after generating an alarm and taking a check of a fellow passenger and an operator, if there is a fellow passenger before adjusting a drive position etc. automatically according to this invention, when people have taken the backseat, or when being equipped with the ** infant seat, the situations, such as being inserted into the sheet which a fellow passenger etc. moves, are avoidable.

[0095] Moreover, it can be made easy to extend the space of the backseat which gets on and to get on, in case a backseat is taken according to this invention.

[0096] Moreover, if an entrainment person is in the front seat which makes it move ahead for the entrainment to a backseat according to this invention, since control which shifts a front seat will not be performed, the situations -- an entrainment person is inserted -- can be prevented.

[0097] Moreover, since according to this invention it changes into the condition of having opened the door mirror until a door closes at the time of alighting, the situation of the car exterior can be checked using a door mirror, and after checking a safe condition, a door can be opened and, as for an operator, can get off. Since a door mirror is closed after a door closes, it becomes impossible for a door mirror to project in the side of a car, the space of the side can be widely used during a halt of a car, and fear of breakage of a door mirror etc. can be reduced.

[Translation done.]